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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,353	02/24/2004	Lars Karlsson	ADV4-H61	8962

7590

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EXAMINER

MULL, FRED H

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/785,353	KARLSSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Fred H. Mull	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to various objection(s), have been fully considered and are persuasive. The objections have been withdrawn.
2. Applicant's arguments on p. 8-9, with respect to the rejection(s) over Liu have been fully considered but they are not persuasive.

Applicant argues Liu does not employ a cross-over point, nor use that cross-over point as a starting point to arriving at the next transmitter position estimate (p. 9, 1<sup>st</sup> ¶, final 4 lines). However, on the first point, Liu discloses positioning using AOA (¶52; ¶64; col. 9, 1<sup>st</sup> ¶). AOA involves measuring lines of bearing and determining position based on the cross-over point of those lines of bearing. Since the receiver is moving, the measurements will be sequential. On the second point, Liu discloses using past measurements to arrive at later position estimates, where new measurements are made continuously and weighted and combined into the position estimate (p. 3, 1<sup>st</sup> col., final 17 lines (starting at "By using MDS ...")), which is similar to applicant's described invention.

3. Applicant's arguments on p. 9-10, with respect to the rejection(s) over Dupray have been fully considered but they are not persuasive.

Applicant argues Dupray does not employ a cross-over point, nor use that cross-over point as a starting point to arriving at the next transmitter position estimate (p. 10, 2<sup>nd</sup> ¶, lines 1-3). However, on the first point, Dupray discloses positioning using AOA

(abstract; col. 49, lines 45-58). AOA involves measuring lines of bearing and determining position based on the cross-over point of those lines of bearing. Since the receiver is moving, the measurements will be sequential. On the second point, Liu discloses using past measurements to arrive at later position estimates (col. 7, lines 10-20).

4. A new 35 USC 112 rejection has been added. Therefore, this action is non-final.

### ***Specification***

5. The disclosure is objected to because of the following informalities:

In the abstract, line 1, --(EL)-- should be inserted after "Locating".

In the abstract, line 2, "DL" should be replaced by --direction finding (DF)--.

In the abstract, line 7, "would" appears to be extraneous.

In the abstract, line 10, "collect whereby" is not clear.

On p. 11, lines 13-15, reference should be added to the pending patent application, 10/785356, that corresponds to the provision mentioned.

Appropriate correction is required.

### ***Claim Objections***

6. Claim 15 is objected to because of the following informalities:

In line 9, a comma should be inserted after "set".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is unclear how applicant's method is carried out. Fig. 6 illustrates the method. However, the DF Set is supposed to take measurements as it is moving, and Fig. 6 only illustrated it at one point. The examiner had been under the impression that this figure was looking from the perspective of the DF Set's reference frame, but this does not seem to clarify the situation. Firstly, if the figure IS viewed from the DF Set's reference frame, this should be clearly expressed in the specification. Further, how does one determine where a cross-over point is in a figure in the DF Set's reference frame? If the figure is supposed to be a figure from the DF Set's reference frame, it would seem a corresponding figure in the Earth Fixed frame would be necessary in order to help explain how to read the figure in the DF Sets frame. If the figure is supposed to be in the Earth Fixed frame, then the DF Set should be in different positions at different times and a line LOB from a past time should not intersect with a line LOB from the present

time at the DF Set. In summary, please explain how Fig. 6 is to be interpreted, and in which reference frame it is to be viewed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In lines 11-12, it states "generating ... a connecting vector from said real-time line of bearing" without stating where the vector it connecting to.

### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Liu.

Liu discloses:

a transmitter transmitting wireless transmissions, said transmitter defining a spacial location (10, Fig. 3);

a DF set comprising a movable receiver for receiving said transmissions (30A);  
and

a computing device for determining said special location of said transmitter responsive to transmissions received by said movable receiver and not responsive to

Art Unit: 3662

other said receivers (325, Fig. 8; p. 3, 1<sup>st</sup> column, lines 20-36; ¶64, lines 6-30), wherein said device operatively:

generates a cross-over point, said cross-over point defined as the intersection of a pair of sequential lines of bearing from said DF set, each line of bearing corresponding to a wireless transmission from said transmitter by said DF set; and estimates a future position of said transmitter in reference to said cross-over point. Liu discloses positioning using AOA (¶52; ¶64; col. 9, 1<sup>st</sup> ¶). AOA involves measuring lines of bearing and determining position based on the cross-over point of those lines of bearing. Since the receiver is moving, the measurements will be sequential. On the second point, Liu discloses using past measurements to arrive at later position estimates, where new measurements are made continuously and weighted and combined into the position estimate (p. 3, 1<sup>st</sup> col., final 17 lines (starting at "By using MDS ...")), which is similar to applicant's described invention.

10. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Dupray.

Dupray discloses:

a transmitter transmitting wireless transmissions, said transmitter defining a spacial location (140, Fig. 4);

a DF set comprising a movable receiver for receiving said transmissions (148);  
and

a computing device for determining said special location of said transmitter responsive to transmissions received by said movable receiver and not responsive to

other said receivers (col. 20, lines 51 to col. 21, line 10) , wherein said device operatively:

generates a cross-over point, said cross-over point defined as the intersection of a pair of sequential lines of bearing from said DF set, each line of bearing corresponding to a wireless transmission from said transmitter by said DF set; and estimates a future position of said transmitter in reference to said cross-over point. Dupray discloses positioning using AOA (abstract; col. 49, lines 45-58). AOA involves measuring lines of bearing and determining position based on the cross-over point of those lines of bearing. Since the receiver is moving, the measurements will be sequential. On the second point, Liu discloses using past measurements to arrive at later position estimates (col. 7, lines 10-20).

11. The examiner also finds the following reference(s) relevant:

Rose, which teaching locating emitters from a moving platform using a long baseline interferometer and an initial angle of arrival measurement (Figs. 2, 3a, 3b).

Applicant is encouraged to consider these documents in formulating their response (if one is required) to this action, in order to expedite prosecution of this application.



***Allowable Subject Matter***

12. Claim(s) 1-14 would be allowable if amended to overcome the rejection(s) under 35 U.S.C. 112, 1<sup>st</sup> paragraph, set forth in this Office action, without the addition of new matter.

13. Claim(s) 16 is/are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if amended to overcome the rejection(s) under 35 U.S.C. 112, 1<sup>st</sup> paragraph, set forth in this Office action, without the addition of new matter.

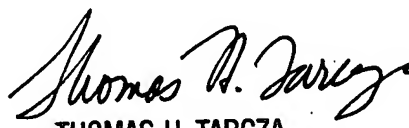
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H Mull  
Examiner  
Art Unit 3662

fhm

  
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